MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM ID 2210)

BFN3174 – FINANCIAL MODELLING
BFN3304 – FINANCIAL AND VALUATION MODELLING

(All sections / Groups)

14 February 2023
9 a.m. – 11 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 3 pages (including cover page)
2. Answer **ALL THREE** questions in **THREE SEPARATE** Excel spreadsheets in **ONE SINGLE** Excel file.
3. Please name your Excel file with your **STUDENT ID**, followed by your **NAME**, for example, **1111111623_AISHA.xls**
4. You need to submit your Excel file to the google classroom portal announced by the examiner during the exam.

QUESTION 1 (30 MARKS)

Your aunt, Beth, just celebrated her 43rd birthday yesterday. Since you have taken the financial modelling course, you want to assist your aunt in achieving her retirement goal. Currently, she has RM100,000 in her retirement fund. However, she wants to save more for her retirement fund so that she can live comfortable after her retirement. She plans to work until the age of 60 and retire the year after. Based on her family's longevity pattern, she thinks that she will live till 80 years old. From the age of 61 to 79, she desires to withdraw RM 90,000 from her retirement fund at the beginning of each year. She also plans to leave you an inheritance amount of RM500,000 after turning 80.

a. If the annual interest rate is 8%, how much your aunt must save at the beginning of each year until she reaches his 60th birthday? You must use the "Goal Seek" function to perform the modelling.

(26 marks)

b. How much does Aunt Beth have in her retirement account before turning her 61st birthday?

(4 marks)

QUESTION 2 (40 MARKS)

A company is considering buying a new machine for one of its factories. The cost of the machine is RM1,500,000 and its expected life span is 10 years. The machine will save the cost of a worker estimated at RM 600,000 annually. The book value of the machine at the end of year 10 is 57,500 but the company estimates that the market value will be 70,000.

a. Calculate the net present value (NPV) of the machine if the discount rate is 8% and the tax rate is 35%. Assume straight-line depreciation over the 10-year life of the machine.

(23 marks)

b. Please advise the management of the firm on what to do based on the NPV computed in (a) (please use IF function in Excel).

(5 marks)

c. Carry out sensitive analyses for the NPV of the machine when tax rate changes and interest rate changes. Given the range of tax rate is from 25% to 35%, with an interval of 1%; and the range of interest rate is from 5% to 15%, with an interval of 1%.

(12 marks)

Continued...

QUESTION 3 (30 MARKS)

Biden Limited has just announced results that the free cash flow (FCF) for the past year is 2.5 million.

An experienced analyst believes that the high growth rate of the Suri Limited for the next 8 years will be 12.4% per year and that after 8 years the growth rate will be 7% annually.

Biden Limited's weighted average cost of capital (WACC) is 14%, and the company has 1 million shares outstanding.

a. Value the shares if the free cash flows (FCFs) occur at year-end. Biden Limited has RM1.5 million debt and RM1 million cash reserve.

(24 marks)

b. Suppose that the FCFs occur mid-year. What would your answer (a) be now?

(6 marks)

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